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agricultural
marketing

NOVEMBER 1970

VOL. 15, NO.11



Nov. 1970



Peanut grading—the way it used to be—is shown below. It took a strong back to get a sample of peanuts with the hand probe, which had to be pushed down to the bottom of the load. Everybody pitched in to help shell the peanuts, and cutting the individual kernels in half by hand was a laborious process. The pneumatic sampler, at right, and the pictures on the following page show how peanut inspection is done now. The pneumatic sampler can be moved to any position over the load.

At least five probes are made with a 4-inch tube that moves easily through the load to the truckbed. All samples gathered are then mixed in the bin at top, and the inspector draws 5-7 pounds to begin his inspection.



PEANUTS HAVE BEEN an important cash crop in the United States since the early 1900's. At that time, peanut vines drying in stacks in the fields were a common sight. After the peanuts had dried for 4 to 6 weeks, they were picked from the vines by

machine and placed in sacks.

Growers sold their crop through country supply merchants who had given them credit during the growing season; to traveling buyers or local merchants representing mills; or directly to shelling or crushing mills.

Sometimes they stored them in commercial warehouses or on their farms to sell later.

But lack of grade standards for peanuts, to establish their quality and, therefore, their value, was an obstacle to trade.

peanuts

checking a big crop for quality

By Ligon W. Johnson



By 1921, however, the U.S. Department of Agriculture had developed U.S. grade standards for Spanish peanuts. Since that time, U.S. grade standards have been established for Virginia and Runner-type peanuts. These grades—together with official inspec-

tion for quality—have played an increasingly important part in the marketing of peanuts.

But there've been some big changes in harvesting, marketing, and inspecting peanuts through the years.

Peanut stacks drying in the fields, though still seen in some areas, are now rarely a part of the harvest scene. Today peanuts are mainly artificially dried in bins or in specially equipped wagons. In most areas, bulk handling has replaced handling in sacks.

Growers bring truckloads of peanuts for sale to buying points set up by shelling plants in the growing areas. Or grower-members of cooperatives deliver directly to the cooperative's shelling plants.

Inspecting peanuts used to be a time-consuming operation, nearly all done by hand.

The inspector first had to draw a sample from the bags or a truckload with a hand probe, and divide it into smaller parts until finally he had a 100-gram sample for inspection. Next he separated the sample, by hand, into sound pods, loose kernels, hulls, and foreign material (stones, vines, and so forth), and determined the percentage of each in the sample.

Taking the sound pods, he shelled them by hand (or hired workers to do the shelling). Then he determined the moisture content of the kernels with a moisture meter.

Sizing the kernels by shaking them on a screen followed. He then checked the percentage of kernels that fell through the screen (these were immature or shriveled kernels). That left "sound, mature kernels" for fur-

ther examination.

The inspector carefully cut each kernel in half with a sharp knife and looked for damage, discoloration, mold, or other defects.

Toting up all these factors—foreign material, loose kernels, moisture content, sound mature kernels, immature or shriveled kernels, hulls, and defects—the inspector then assigned a grade or a quality level to the lot or truckload.

Beginning in 1949, all peanuts placed under USDA's price support program were required to be inspected by the Federal-State Inspection Service, a joint operation of the Fruit and Vegetable Division in USDA's Consumer and Marketing Service and cooperating State agencies.

In addition to peanuts placed under price support, the Inspection Service now checks the quality of virtually all peanuts placed on the market. A Federal Marketing Agreement established in 1965 also requires inspection of peanuts for quality.

Mechanical and automatic inspection equipment, first brought into use in the early 1960's, and now available in practically all growing areas, makes inspection work more accurate and less arduous. With this equipment, inspectors can grade a 500-gram sample instead of 100-grams—in even less time—and thereby assure that it is more representative of the lot.

The list of equipment now used includes a pneumatic sampler; a sample divider; a machine that separates foreign material, loose kernels, and hulls from sound pods; an automatic sheller; a mechanical kernel sizer; and



1 The inspector pours the sample from a truckload through the sample divider to get it down to at least 1500 grams.

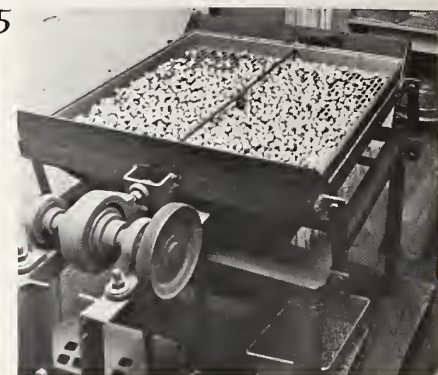
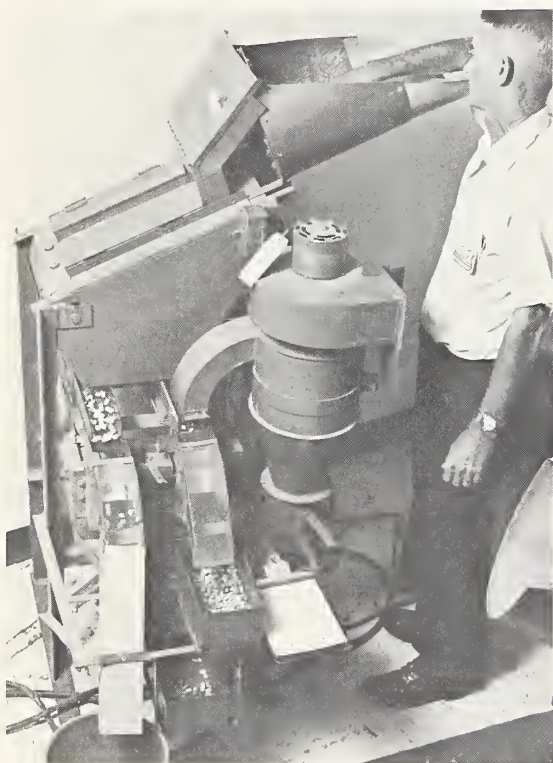
2 The sample goes through a machine that separates foreign material and loose kernels from the whole peanuts. After the inspector examines and determines the percent of each type of material in the sample, he takes 500 grams of clean, whole peanuts for further inspection.

3 An aide puts this sample into equipment that separates peanuts into three sizes.

4 The peanuts are automatically shelled.

5 The kernels are placed for a set time on a machine that shakes them over a screen. Immature or shriveled kernels fall through the screen. Sound, mature kernels (those on top of the screen) are checked for external damage, discoloration, and mold.

6 The inspector removes the damaged or defective kernels and places the remaining kernels in the mechanical splitter. This machine splits and turns the kernels so that both sides are visible and the inspectors can check them for internal damage or mold.





The inverted harvester turns peanuts up toward the sun and away from the soil. The peanuts are usually dried in the field for a few days, and then artificially dried in bins or wagons.

a machine that splits kernels and turns both sides up for examination.

The foreign material cleaner is the most recently developed equipment and is not yet in use in all areas.

Today, inspectors with the Federal-State Inspection Service are on hand all during harvest at buying points and shelling plants to certify the quality

of each truckload of peanuts. Altogether, more than 1,400 people are employed to inspect the crop in the Southeast, Southwest, and Virginia-Carolina growing areas.

And with this year's large crop—which will probably amount to more than 2½ billion pounds by the time harvest is complete—the Inspection

Service needs every bit of human and mechanical help it can get! ☐

The author is a standardization specialist, Fresh Products Standardization and Inspection Branch, Fruit and Vegetable Division, C&MS, USDA.



DUCK

a royal treat for the holidays

By Sara Beck

LOOKING FOR SOMETHING delicious—but different—for your holiday table? Why not try duck, a dish featured at many a royal banquet table in days of yore.

Roasted, broiled, fried or barbecued, duck is just as tempting and tasty today.

Traditionally, duck is roasted or broiled for holiday festivities. An orange-glazed roast duckling is a connoisseur's delight. Or, you may prefer

to let the duck's skin brown to a tempting crispness on its own, while you devote your energies to a scrumptious fruit, oyster or nut stuffing.

How you plan to prepare the bird will help you determine which type of duck to buy. Be sure, though, to allow at least one-half pound per serving, to yield three ounces of cooked lean meat.

A "broiler duckling" or "fryer duckling" is a young duck, usually

under 8 weeks old, and usually very tender. It's the one you'll find most often when you shop.

A "roaster duckling" is usually 16 weeks old or younger and still quite tender. In some areas ready-to-cook, cut-up ducklings of both types are beginning to appear on the market.

All ducks that are marketed in interstate commerce must be inspected for wholesomeness before and after slaughter by the U.S. Department of Agriculture's Consumer and Marketing Service. More than 11 million chilled and frozen, ready-to-cook ducks passed this Federal inspection between July 1, 1969 and July 1, 1970.

Other C&MS specialists must approve labels before they are used on inspected ducks. Since most of us don't have the opportunity to personally visit duck processing plants, we need to rely on such labels to know what we're getting when we shop. They tell us the class of bird, its net weight, the packer's or distributor's name and address, and—through the mark of inspection—that the bird was wholesome when inspected and was prepared under sanitary conditions.

Ducks carrying a USDA Grade A shield are fully fleshed with a good layer of fat and look attractive.

Imported ducks, such as those that occasionally come in from Canada, must also be inspected and their labels must clearly show their origin.

Most ducks on the market, regardless of where they're from, are sold frozen and ready-to-cook. Frozen, uncooked duck will keep well for up to 6 months in a home freezer at a temperature of 0° F.

For continued wholesomeness, be sure to thaw duck, like all other poultry, in the refrigerator rather than at room temperature. A duck weighing between 3 and 5 pounds takes 24 to 36 hours to fully thaw. Prepare and cook it immediately after thawing.

When you do, let your imagination and your tastebuds be your guides. Make a tasty dressing and glaze, and add colorful garnishes. Your family will feel like royalty dining at a festive holiday banquet. □

The author is a consumer specialist, Information Division, C&MS, USDA.

think rice!



WHAT TO DO WITH 10.1 billion pounds of rice? That's what we've got on hand these days—about 50 pounds for each man, woman, and child of us.

Well, actually it only comes to 30 pounds apiece after the rice is milled. And you don't really have to eat your whole 30-pound share, though it would help if you'd do a little something to increase the 8 pounds you ate last year (that is, if you believe per capita consumption figures).

We'll send a lot of that rice overseas, where people *really* are rice eaters—some places they eat more than a pound a day. Fact is, during the past couple of years, we've become the world's biggest rice exporter. In the past, Burma and Thailand held that title.

But still, we've got a lot of rice—more than can be sent overseas or used at home, unless we get busy and eat some more.

So the U.S. Department of Agriculture's Plentiful Foods Program is pulling out all the stops in November and December to call this fact to your attention, to help get the currently abundant supplies off the grocer's shelves and onto your dinner plate. Or soup bowl. Or dessert dish.

There are all kinds of ways to use rice, and USDA and the food trades which cooperate in promoting plentiful foods are going to see to it that you hear about them.

For example, here are some ideas suggested by USDA's Plentiful Foods Program Staff:

- Cook rice in tomato juice and serve topped with cheese sauce.
- Serve creamed salmon, hard-cooked eggs, peas, and pimiento over hot, fluffy rice.

- Pour hot chili con carne over cooked rice.

- Add rice to homemade vegetable soup about 20 minutes before cooking time is over.

- Make a rice salad using rice, minced onion, shredded cabbage, celery, cut-up fresh or canned tomatoes, and serve on salad greens with French dressing.

- Pour hot pea soup over rice, and add frizzled luncheon meat.

- Mix sweetened, cooked rice with whipped cream and layer in parfait glasses with cling peach slices.

- And don't forget good old rice pudding.

While you're in the kitchen stirring up the pudding, USDA and the rice industry, retailers, wholesalers, and food service people (those who operate restaurants, cafeterias, and other eating establishments) will be out there stirring up ideas for pushing rice through advertising and promotion.

Several large supermarket chains have promised to give rice prominent billing in their ads and store displays during November and December.

Dinah Shore is going to plug rice—and other items on USDA's monthly Plentiful Foods List—on her new daytime TV show.

Newspaper and magazine food editors will be running recipes and feature stories on rice, cooperating as they regularly do with the Plentiful Foods Program.

Even NASA (National Aeronautics and Space Administration) is getting into the act. NASA has promised to lend its mock-up of the lunar landscape at Houston for some promotional picture-taking—featuring a make-believe astronaut and the ever-present rice.

And at the annual Pan American Hospitality Exposition, in Miami, the rice industry is going to give away a ton of the nourishing little nuggets.

Now, then—how about mixing up a batch of chop suey—a nice curry—a rice stuffing for your Thanksgiving or Christmas turkey—or maybe just a plain dish of rice with butter or gravy?

Think of *something* . . . surely you can do better than a mere 8 pounds!



Plentiful Foods for November

RICE AND TURKEYS are the featured items on the U.S. Department of Agriculture's November Plentiful Foods List.

Other plentifuls for November include potatoes, onions, fresh apples, canned applesauce, apple juice, fresh cranberries, cranberry sauce, fruit cocktail, walnuts, dry split peas, pork and broiler-fryers.

Rice production this year is expected to total nearly 8.5 billion pounds, down somewhat from last year but still more than ample.

Turkey marketings in November are expected to exceed those of a year earlier. Cold storage holdings also are expected to be well above those of last year.





FOOD HELP MAKES FRIENDS

ALTHOUGH VOLUNTEERISM is not new, there are some new kinds of volunteers—food help volunteers. Recognizing their significance, the U.S. Department of Agriculture welcomes their support.

Alma C. Olsen is this kind of volunteer in her community. She offers buying tips to senior citizens who boost

agricultural marketing



their buying power through food stamps. In addition to offering advice, Mrs. Olsen also helps recipient neighbors in the program by taking them in her car to the grocery store to use the stamps.

As many of her neighbors are disabled, she often acts as a "proxy" for them—picking up their food stamps at the issuance office once a month.

Mrs. Olsen, a widow who had worked in a jewelry store before she retired in 1968, relies on a social security pension to live, as do most of her neighbors. The Food Stamp Program spreads what little they have.

"To me it's been a boon," she says. "Food stamps help me save money for other things I need."

The Food Stamp Program, administered by USDA's Food and Nutrition Service, enables eligible low-income families to increase their food purchasing power by investing their own food money in food stamps worth more than they paid. The food stamps are spent like cash at retail food outlets authorized under the program. ☐





YOU MIGHT NOT THINK that oleo-margarine and non-dairy coffee creamers have something in common, but they do. Both are made from soybeans.

Sometimes called the "miracle bean," the soybean has a high percentage of oil and protein, each of which has many uses. For example, soy protein is used in your coffee creamer, while soy oil is used in your margarine.

To obtain these valuable byproducts, soybeans are put through a process called solvent extraction during which the oil is removed from the bean. The result is a crude oil and rough meal. The rough meal can be fed to livestock as a protein supplement or processed into soy flour. From soy flour, pure vegetable protein can be extracted and used in a variety of products for human consumption.

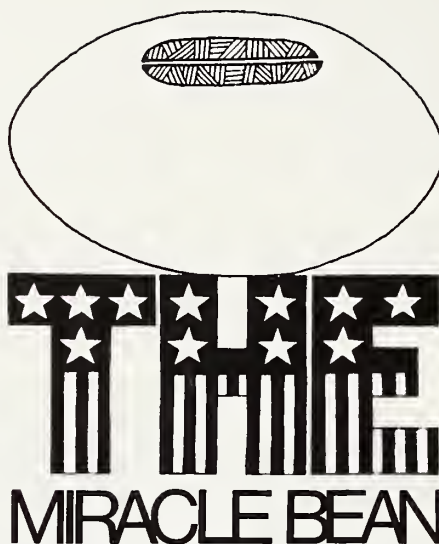
The crude oil is edible. It has a dark color and a sweet, nutty flavor. But most Americans prefer oil with a neutral flavor so the oil is usually refined. Refined soybean oil has an attractive color, lighter than corn oil. It also has the desired mild flavor and a longer shelf life than crude soybean oil. You will find that most cooking and salad oils labeled only "vegetable oil" are primarily soybean oil.

But cooking and salad oils are relatively recent markets for soybean oil. For the past 20 years, it has been the main vegetable oil used in making oleomargarine.

Most margarine, in fact, is 80 percent hydrogenated soybean oil with salt, dry skim milk, and water making up the difference. Many vegetable shortenings used for baking and frying are also made from soybean oil.

The meal from soybeans is just as versatile as the oil. The rough meal is ground into a fine soy flour. Not normally found at the supermarket, soy flour is often available at specialty stores. This flour cannot be used alone in bakery products because it does not contain enough gluten, which gives cohesiveness to dough, but it can be mixed with wheat flour to make a more nutritious bread.

The most important contribution of soy flour, from a nutritional standpoint, is its high protein content.



By Edith H. Christensen

Although different from animal and dairy protein, plant protein is just as good for both adults and children. For this reason many people turn to the plant world—especially soybeans—for their protein.

Soy protein is particularly popular with people allergic to animal or dairy protein, those on low cholesterol diets (soybeans contain no cholesterol), and religious and philosophical vegetarians. Institutional use of soy protein, in the form of artificial meats, is also increasing.

Among other popular soy protein products are non-dairy coffee creamers, non-egg meringues, baby formulas, and new foods such as wheat-soy macaroni and a porridge called CSM (corn, soy, and non-fat dry milk) which can also be baked. CSM is available at some supermarkets, and

wheat-soy macaroni may be available soon.

Golden in color, wheat-soy macaroni has more protein than regular macaroni and does not stick together when cooked. The U.S. Department of Agriculture is now buying this tasty, protein-packed macaroni for distribution to needy families and schools because its purpose in these programs is to provide the most nutrition per pound of food.

When any of the soybean products such as wheat-soy macaroni or soybean salad oil are bought by USDA for its distribution programs, they receive the same thorough inspection as other foods purchased by USDA.

Soybean products are tested for quality by trained technicians of the Grain Division of USDA's Consumer and Marketing Service. In the Grain Division's laboratories in Beltsville, Md., technicians test oil products for color, flavor, pliability, and keeping quality.

They test meal products such as the wheat-soy macaroni for appearance, protein content (to determine that the required amount of soy flour was added), and moisture content (too much moisture will reduce storability). All products must meet government specifications or they are not purchased or distributed. This ensures that needy families and schoolchildren receive only the best.

By now you may be wondering why you didn't know you were using so many soybean products. Federal labeling laws do not require that the specific type of vegetable oil or protein be named. Most labels for cooking or salad oils, therefore, only say "vegetable oil."

The small-print ingredients list may include the specific kind, such as soybean oil. By the same token, the ingredients list on a jar or box of non-dairy coffee creamer may only say "vegetable protein." Nonetheless, most vegetable protein and oil products are made from soybeans. So read the fine print if you want to know when you are buying the oil or protein of the "miracle bean."

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plant registration steps up meat security!

By L. L. Gast

A NEW FEDERAL REGULATION requiring the registration of individuals operating in various phases of the meat industry will add yet another dimension of security to the Nation's meat supply.

The registration requirement is only a part of new U.S. Department of Agriculture regulations which were published in the Federal Register on October 3 and go into effect December 1. The Federal Meat Inspection Act as amended by the Wholesome Meat Act is the basis for the new regulations, which give details on how to comply with the law.

Those who slaughter animals or process meat for human consumption in interstate commerce are already subject to Federal inspection and each has been assigned an official establishment number. Therefore, they won't have to re-register under the new requirement. Also, the Federal law does not require the registration of retail outlets.

But the interstate scope of the meat industry includes many other types of businessmen, such as meat brokers, wholesalers, and warehousemen. Knowing the identity of each of these operators is important to members of the Compliance and Evaluation Staff of USDA's Consumer and Marketing Service. While the inspectors in the plants are the first line of defense against unfit meat and poultry, the C&E Staff is the second line of defense in this effort.

Another segment of the meat and allied industries, which processes meat for non-human food purposes, uses meat from animals which died other than by slaughter or other suspect animals. This meat has the potential for being diverted from its intended non-human food use and represents a possible hazard to human health. The C&E Staff must also know the identity of those operating in this phase of the meat industry.

By having a complete picture of the interstate meat and allied industries, the C&E Staff will be able to act

more quickly and effectively in carrying out its responsibilities. For example, efforts may be made to divert into human food channels uninspected meat which moved in interstate commerce.

The Federal Meat Inspection Act prohibits interstate shipment of any meat which was not federally inspected.

By knowing the identity of all those dealing with meat at any level, the C&E Staff can more readily trace the product back to its source and initiate appropriate administrative or legal action against any violators.

The principal owners of firms required to register must do so by March 1, 1971.

Special forms for this purpose are available from any of the eight regional or 121 circuit offices of USDA's Consumer Protection Program. Copies may also be obtained from the eight C&E Staff Area Offices or the Compliance and Evaluation Staff, Consumer and Marketing Service, U.S. Department of Agriculture, Washington, D.C. 20250.

Members of the C&E Staff will visit registered establishments to help them understand their legal rights and obligations under the new regulations. For example, the firms must maintain records of their transactions and make these records available for examination by C&MS representatives.

The registration requirement will thus have a two-fold value. First, it will enable the C&E Staff to know the names of those operating in meat and allied businesses, and the nature of their operations.

Second, by followup inquiries based on this information, the C&E Staff can make sure the meat from a given source is reaching its intended destination without diversion for illegal purposes. □

The author is Director, Compliance and Evaluation Staff, C&MS, USDA.

Consumers— do you know?

THAT FROZEN TURKEY'S cold! So be sure to allow it extra time if you're cooking it without thawing. Frozen items take about one and a half times as long to cook as unfrozen cuts of the same weight and size, Federal poultry and meat inspectors advise. For more tips on cooking times, send for the free publication, "Meat and Poultry—Care Tips for You," (G-174), Office of Information, U.S. Department of Agriculture, Washington, D.C. 20250. □

WE ALL HAVE FAVORITE ways of doing things, especially in the kitchen at holiday time. But some commonly "accepted" ways of roasting turkeys are far from acceptable—in fact, they can be dangerous, say meat and poultry inspectors in the U.S. Department of Agriculture.

Don't, for example, roast your turkey in the oven all night long at a low temperature. Instead, roast it at the proper, higher temperature for fewer hours in the morning to effectively destroy bacteria.

The internal temperature of the bird, when done, should be 180-185°F. (To best test for temperature, insert a meat thermometer in the center of the bird's inner thigh muscle so it doesn't touch the bone.)

Don't partially roast your bird the night before to finish cooking in the morning, either. And never leave it in a cool oven overnight because of lack of refrigerator space.

Sound rough? Maybe so. You may have to rearrange the contents of that "fridge," and you may even have to get up a little earlier on the big day. But doesn't the assurance of a safe, wholesome meal for your family and holiday guests make it worthwhile?





in Tucker Hill volunteers provide day care !

"LOOKING BACK OVER the 35 years of teaching in Westmoreland County, I found that the third generation of children that I had taught in 1934-35 were just as impoverished as their parents and grandparents had been. This situation was of great concern to me. I felt that we must help the little children to know what is involved in the 'good life.'"

For Mrs. Elaine S. Jackson of Dunnsville, Va., as for many individuals and groups throughout America, the time had come to give her time,

talents, and resources to help end hunger and poverty in her own community.

Mrs. Jackson felt that if she were to provide care for some children during the day, their mothers would be able to go to work to help make their homes more comfortable and happy places in which to live. To do this she purchased a 12-room house in Tucker Hill, Va. With help from the U.S. Department of Agriculture and contributions and donations from churches, club groups, and individ-





uals in the community, the house was renovated and equipped for a day care center.

Since this program represents an especially needy situation, it qualifies for the top reimbursement rate, paid by USDA's Food and Nutrition Service. The center receives from FNS a major share of its food-service operation costs—food, labor, and utilities—and donated foods. In addition, FNS paid 75 percent of the cost of some new equipment, including an electric oven, refrigerator, stainless steel sink, food mixer, serving table and pans, forks, spoons, and serving trays.

The center serves breakfast, morning snack, lunch, and afternoon snack. It also makes all its own baked goods. All meals are free.

Some parents do not pay anything for the care of their children. Others pay a nominal fee.

The children are eating well. Over 90 percent of them are members of the Clean Plate Club. □



Mrs. Elaine Jackson started the Immanuel Day Care Center with the hope of providing a "good life" by stressing good nutrition. But she feels nutrition is only part of the picture. The center also provides classrooms and outdoor recreational facilities.



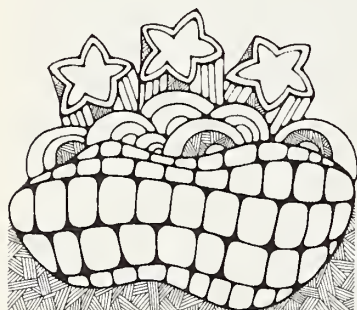
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COVER STORY

U.S. grade standards for peanuts and official inspection for quality have played an increasingly important part in the marketing of peanuts. See page 2.

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AGRICULTURAL MARKETING is published monthly by the Consumer and Marketing Service, and the Food and Nutrition Service, U.S. Department of Agriculture, Washington, D.C. 20250. The printing of this publication was approved by the Bureau of the Budget August 4, 1969. Yearly subscription is \$2.00 domestic, \$2.75 foreign. Single copies 20 cents each. Subscription orders should be sent to the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

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